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ABSTRACT

This handbook is designed to assist schools in carrying out the following goals of the Fair Play program: to strengthen and expand students' female or male self-concepts, to increase their decision-making skills, and to increase their academic achievement by changing their stereotypic attitude toward particular content areas. The Fair Play program consists of six units: (1) Decisions and You (decision-making skills); (2) Decisions about Roles (changing, choosing, and defining roles); (3) Decisions about Language (comparison and analysis of female and male language); (4) Decisions about Mathematics (male and female attitudes toward math and math-related careers); (5) Decisions about Science (attitudes toward science, human development and the role of genes, and relationship between humans and the environment; and (6) Decisions about Physical Activity (attitudes toward physical activity and activities to enhance abilities in physical fitness). Following a description and rationale of the program goals, the handbook briefly describes the student and teacher guides which are available separately. Suggestions and models for starting the program in a school or school system are included in the section on administering the program, along with recommendations for keeping the program going. The section on teaching the program gives an overview of the program and the structure of the units and lessons, guidelines for student evaluation, and descriptions of instructional approaches. The final section comprises a brief discussion of the method and results of the program evaluation. Appendices contain three essays which provide a comprehensive rationale for the program goals. (DC)

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Fair Play: Developing Self-Concept
and Decision-Making Skills
in the Middle School

Implementation Handbook

Byron G. Massialas
Project Director

Florida State University

Women's Educational Equity Act Program
U.S. Department of Education
T. H. Bell, Secretary

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Program Staff:

Byron G. Massialas, Director
Kathryn P. Scott, Associate
Melissa Wheeler, Production Coordinator and Curriculum Writer
Nelle Wright, Field Coordinator
Theo Mantzanas, Evaluator

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Purpose

The Implementation Handbook is designed to assist the school—its faculty, students, and administrators, as well as students' parents—in carrying out the goals of the Fair Play program. These goals are to strengthen and expand students' self-concepts, to increase their decision-making skills, and to improve their academic skills and abilities.

For your convenience, the handbook is designed as a reference. Sections addressed to both teachers and administrators involved in the program include Program Goals, Description of Units, and Program Evaluation. A section entitled Administering the Program specifically addresses administrative concerns, while the section Teaching the Program contains material particularly useful for teachers. A comprehensive rationale for the program is included in three appendices.

You will probably make the most use of this handbook while you are making your plans to implement the program. But keep it handy throughout, for use in clarifying particular aspects of the program.

Program Goals

Are you interested in an innovative program to help middle school students:

- improve and expand their female or male self-concepts,
- learn to make decisions,

and at the same time

- learn basic skills in language arts, mathematics, science, social studies, and physical education?

If your answer is yes, then this program, Fair Play: Developing Self-Concept and Decision-Making Skills in the Middle School, is for you.

The goals of this program are:

- To help students expand their self-concept in relation to their female or male identity, including their role behavior, personality traits, and occupational aspirations and expectations
- To increase students' self-confidence and participation in making decisions
- To increase students' academic achievement by helping students change stereotypic attitudes toward particular content areas and alerting them to the relationship between subject matter and occupational opportunity

Why Is Self-Concept Important?

Self-concept, which is one's view of oneself, or one's self-image, greatly affects an individual's academic achievement as well as the decisions a person makes throughout life. How students perceive themselves as females or males is an important consideration in determining their self-worth. The Fair Play program focuses on two aspects of self-concept: role orientation and achievement motivation.

Traditionally, girls have not been encouraged to perform to the best of their ability in many areas, especially mathematics and science. Similarly, boys have not been encouraged to pursue study in subjects such as home economics and secretarial work. This lack of encouragement results in a low self-concept in relation to those areas, which in turn has a measurable impact on performance.

This program seeks to encourage both female and male students to explore their talent and potential and to overcome stereotypes that may hold them back in certain areas. For a more detailed analysis of female and male self-concept in relation to academic performance, see Appendix A, A Rationale for Expanding Self-Concept, and Appendix C, Sex Stereotyping in Academic Achievement.

Why Are Decision-Making Skills Important?

Overchoice is a reality confronting many of us in American society today. The word simply means that there are many choices facing contemporary Americans, and unless we are prepared for these choices we might be overwhelmed by them. To survive in such a society, we need to know how to make effective personal and group decisions. A person who has mastered the skills of decision-making is more likely to have a strong sense of political and social efficacy. Social efficacy can be described as an understanding of how the system functions and a feeling that the world is predictable and that we can control our own destiny.

In order for students to develop a sense of efficacy and self-confidence in both personal and group decision-making, teachers and administrators must provide students with opportunities to make decisions in the school environment. This approach may be termed school as laboratory. Students can help choose textbocks, can choose seating arrangements, and can make some school or class rules. Such opportunities for participation will help students learn to apply important decision-making skills. For more detailed information about decision-making in relation to academic performance, see Appendix B, A Rationale for Improving Decision-Making Abilities.

You Already Know Why Basic Skills Are Important

Teachers have a tremendous task in preparing students for the increasing number of tests required by their school system and in improving the academic quality of their programs. As a result, the Fair Play program staff has chosen to use traditional academic content as the vehicle through which the program's curriculum goals can be accomplished. Additionally, through efforts to eliminate students' stereotypic attitudes toward particular content areas, students' levels of academic achievement can be improved.

Descriptions of Program Materials

The materials in this program have been developed to meet these objectives: to increase students' skills in decision-making, to expand students' female or male self-concepts, and to enhance students' scholastic performance in the core subjects. A brief summary of each unit is given below.

- Decisions and You—a 12-lesson prerequisite decision-making unit in which students learn personal and group decision-making skills (student text and teacher's guide)

- Decisions about Roles—a 20-lesson social studies unit in which students find out how roles change over time and how people can choose and define their roles (student text and teacher's guide)

- Decisions about Language—a 20-lesson language arts unit in which students compare and analyze female and male language (student text and teacher's guide)

- Decisions about Mathematics—an 18-lesson math unit in which students learn how to collect and interpret quantitative data while examining economic and career-related issues about females and males (student text and teacher's guide)

- Decisions about Science—a 17-lesson science unit in which students examine female and male characteristics and behaviors in relation to genetics and environment (student text and teacher's guide)

- Decisions about Physical Activity—a 29-lesson physical education unit in which students participate in a physical fitness program designed to improve students' fitness skills and attitudes toward physical activity (teacher's guide)

Administering the Program

Starting the Program in a School or School System

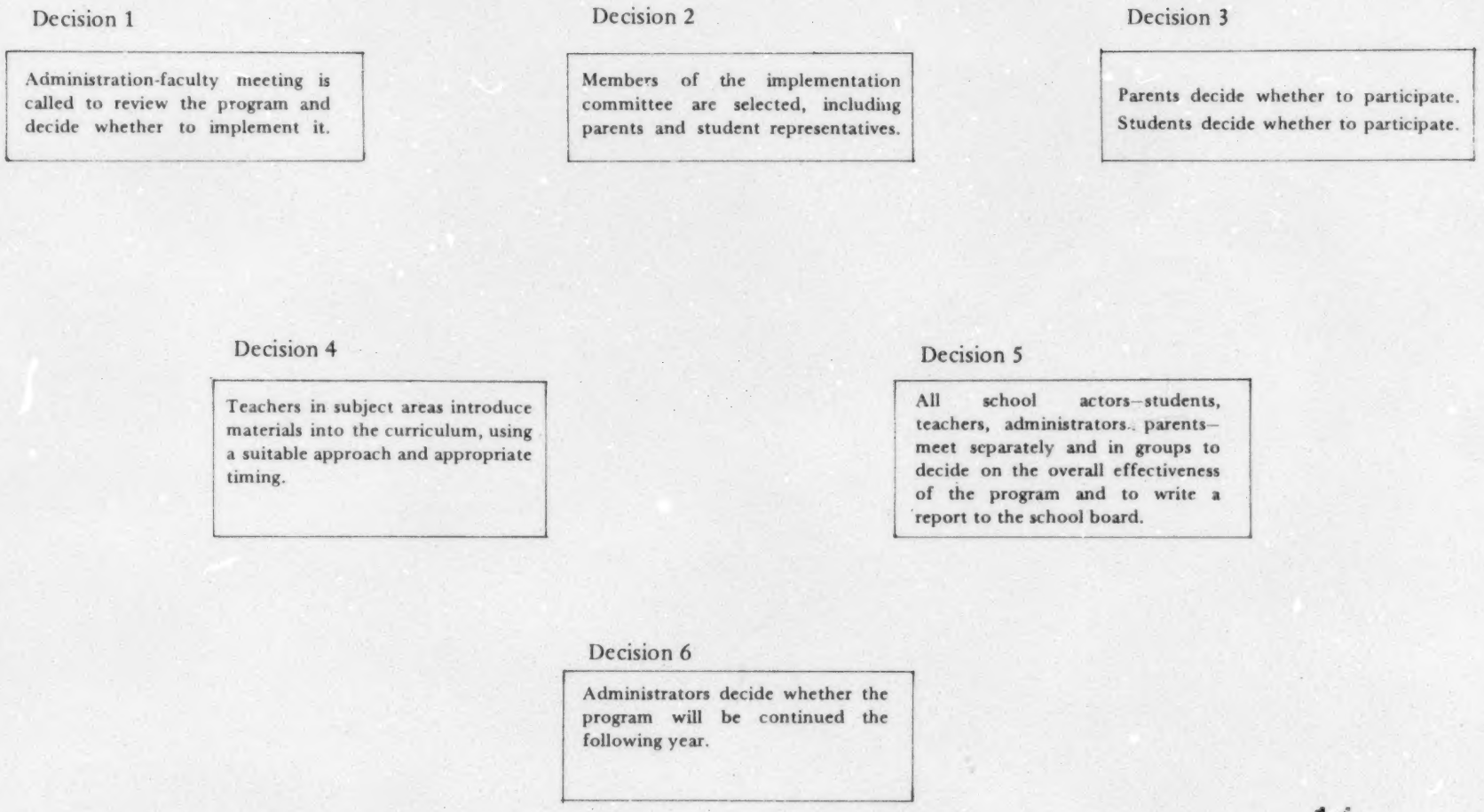
The administrator or coordinator plays a crucial part in initiating as well as carrying out the program—for the overall planning as well as managerial tasks. Below are two models: the first for use in getting the program started in a particular school, and the second for use in starting the program in a school system. These steps not only are procedural but also aim at getting the new program accepted and legitimized, since there is always some resistance to any innovation. Figure 1 shows a flowchart of these steps.

Model 1: Starting the Program in Your School

1. Meet to discuss the program. At a meeting of the faculty, discuss program objectives and program materials. Introduce the knowledge base of the innovation (see Appendices A, B, and C), and make sample copies of texts available. Instructional staff who are familiar with one or more of the three dimensions of the program—that is, decision-making, female and male self-concept, and basic skills—can act as facilitators and promote awareness. You and/or the facilitators can try to persuade others to accept and seek out this innovation. For example, you may refer to the benefits gained in schools at which such innovation was implemented. You may want to suggest that the program be implemented on an experimental basis—for example, by trying out one or two lessons.

   At the end of the meeting, vote on whether to explore the possibility of using the school as a laboratory (see Appendix B) in which program materials would be used.

Figure 1. Starting a Program in a School


Decision 1
Administration-faculty meeting is called to review the program and decide whether to implement it.
Decision 2
Members of the implementation committee are selected, including parents and student representatives.
Decision 3
Parents decide whether to participate.
Students decide whether to participate.
Decision 4
Teachers in subject areas introduce materials into the curriculum, using a suitable approach and appropriate timing.
Decision 5
All school actors—students, teachers, administrators, parents—meet separately and in groups to decide on the overall effectiveness of the program and to write a report to the school board.
Decision 6
Administrators decide whether the program will be continued the following year.

2. Appoint a committee to implement and monitor the program. After an affirmative vote, appoint a committee to implement and monitor the program. The committee may comprise an administrator as its chairperson (preferably the assistant principal in charge of curriculum) and five teachers, each one representing a subject area (social studies, math, physical education, language arts, and science). Later the committee may be expanded to include a student and a parent from each grade level.

   As one of its first tasks, the committee should develop a list of specific goals for the program. These goals should outline intended outcomes in the areas of knowledge, attitudes, and skills.

3. Inform and involve key people. Identify key people to be involved eventually in the adoption process (these people should be so-called legitimizers and gatekeepers, such as curriculum coordinators, influential parents, and community leaders), and inform them about the program.

   The following procedure may be used to get parents involved: (a) invite representative parents (from the PTA, for example) to attend one of the regular committee meetings of the program; (b) give parents samples of the materials to be used, and ask them to voice their opinions of the program; (c) if the parents support the idea of the program, ask them if they will help the committee introduce the program into the school; (d) ask parents to select three of their members (one to represent each of the three middle school grade levels) to participate on the committee charged with program implementation; and (e) discuss the program with representatives of student government or other similar organizations, and/or ask students to select three people to participate in the implementation committee.

Select appropriate techniques to be used at different points in the adoption process to inform people about the themes addressed in the program. Sample techniques include posting newspaper articles and pictures at key bulletin boards, sponsoring a lecture by a well-known specialist, and showing a movie.

4. Implement the program. Introduce the program on a school-wide basis through the teachers in the core subject areas—social studies, language arts, physical education, science, and math. These teachers should participate in the program on a voluntary basis. Each unit in the program can be taught in small installments to last for the entire school year, or it can be taught as a complete unit for a period of four to six weeks. The pretests and posttests that accompany each unit should be administered to determine outcomes.

5. Monitor and evaluate the program. The implementation committee should schedule separate meetings with the administrators, faculty, student body, and parents' organization(s) to assess the overall value of the program. The committee should then prepare a final report, with recommendations, to the school board and should include a list of additional activities in which school personnel engaged as they implemented the program.

6. Decide whether to continue the program. After reviewing the committee's final report, the school board should reach a decision to continue the program or to end it. If the program is considered effective, other schools in the district may decide to use it. Should that be the case, the core personnel from the initial pilot school can serve as the consultant group. The faculties and student bodies of the respective schools should similarly go through the procedures outlined here.

Model 2: Starting the Program in Your School System

1. As program initiator, you should first make contact with the district school administration. You should discuss the project with the superintendent and principals of the schools that may want to be involved in the program. If the superintendent accepts the program proposal, he or she will enter the item on the school board agenda.

2. You should then present the proposal at the district school board meeting for the board's approval.

3. If the school board approves the program, you should next make contact with the principals of the schools selected for participation in the program. You and the school principals should then present the program proposal at a meeting of district principals and supervisors.

4. The school principals should next present a summary of the program to the district research director. This step is needed for the filing of records and for requesting evaluator assistance if needed.

5. The principals/coordinators of each school involved should then follow the six steps previously set out for Starting the Program in Your School.

Keeping the Program Going

An important function you have as the administrator/coordinator is to provide training and guidance for the teachers. Be available to individual teachers who may have questions about the program, circulate information among teachers about the ongoing program, and conduct practical training sessions on:

- What the program is about
- How the program materials fit into scope and sequence charts, the state standards, and the development of basic skills
- How to teach the materials
- How to evaluate the materials

Teaching the Program

This Fair Play program for middle school students has two purposes that make it unique: to expand students' male or female self-concepts and to increase students' decision-making capabilities.

However, teachers have a tremendous task in preparing students for the increasing number of tests required by their school systems and in improving the academic quality of their programs. Because of the current emphasis on basic skills, a third goal of the program is the improvement of students' academic abilities and skills, enabling career choices for both girls and boys to be expanded. The result is a series of five student texts and six teacher's guides, focusing on specific subject content as well as on self-concept and decision-making skills. The social studies unit, Decisions about Roles, looks historically at the roles of men and women in the twentieth century. The language arts unit, Decisions about Language, examines the way we change language and language changes us. The physical education unit, Decisions about Physical Activity, presents a physical fitness program. The math unit, Decisions about Mathematics, emphasizes data-collection skills. The science unit, Decisions about Science, presents information about heredity and the environment. Each of these units is designed to supplement components of the present curriculum. The introductory unit, a decision-making unit entitled Decisions and You, relates to all subjects and can be used as an introduction to the program.

In each of these units, students have the opportunity to discover information that can enable them to expand their female or male self-concepts. Students are encouraged to examine stereotypes about what girls or boys "are like" and what girls or boys "should do." Students then have the opportunity to make personal and group decisions based on the knowledge they have gained.

The teacher's guide for each unit contains not only the student materials but also detailed annotations to aid the teacher in planning and presenting each lesson.

How the Units Are Structured

Because of the program's focus on decision-making, the units are structured according to a decision-making model. This model consists of three basic parts:

Part I: The student is introduced to issues and concepts related to the theme of the unit.

Part II: The student gains skills and information with which to examine the issues and concepts introduced in Part I.

Part III: The student is provided with opportunities to make decisions that require use of the information and skills he or she has learned.

How the Lessons Are Structured

Annotated material in the teacher's guides includes the following for each lesson:

Duration: The suggested number of class periods to spend on the lesson

Purpose: The overall goal of the lesson

Student Objective(s): The outcome(s) of the lesson for the students

Teaching Suggestions: Suggested approaches to teaching the lesson, in terms of three levels:
Level 1, the minimal course, allowing time for reinforcement and recycling;
Level 2, the regular course; and
Level 3, the enriched course, for advanced classes

Vocabulary: The words that are central to understanding the lesson

Background: Information about important generalizations in the lesson, and suggested allotments of time to be spent on each activity

Evaluation Activity: That activity in the lesson which may be used for evaluation purposes

Answers: Detailed answers to all questions in the student materials

The student materials include activities on Level 1, Level 2, and Level 3 so that a diversity of students' academic needs and levels of interest may be addressed. Many lessons also include a final evaluation activity, which may be used as a small quiz for grading purposes.

An exception to the above format is the physical education unit, which emphasizes physical activity and therefore is designed exclusively as a teacher's guide. Cognitive and affective objectives are addressed through class discussions around the use of several student handouts. These handouts are included in the teacher's guide and must be duplicated for students.

Grading the Units

This program includes several evaluation components that may be used to assess student performance. Pretests and posttests are included in the back of the teacher's guides. The test items are designated according to the particular lesson objective they cover. As a result, the tests may be used as complete unit tests or may be broken up for use in evaluating performance on particular lessons.

Evaluation activities also accompany many lessons. These activities, called Flight Checks, may be used as small quizzes or may be accumulated as larger tests over several lessons. Or they

may be used as self-evaluation activities for students' information only. Lessons that have no evaluation activities are either inquiry lessons or participation lessons; with these kinds of lessons, students should be evaluated according to whether they did the activities in the lesson.

Options for Using the Units

In general, subject area teachers may either supplement the regular curriculum with the program materials or substitute them for related portions of the regular curriculum. Below are outlined variations of these two approaches.

1. Infusion approach: infused in entirety. A unit may be infused in its entirety into a related general topic in the subject area. For example, Decisions about Science may be taught in the class as a whole with the topic of heredity and environment. Each unit is designed to take from four to six weeks.

2. Mini-course approach. Because the program units are independent of one another, each unit or a combination of units may be taught as an independent mini-course.

3. Infusion approach: infused in parts. A unit may be divided into parts and these parts infused into appropriate topics in the regular curriculum of the course. For example, Decisions about Mathematics contains several lessons on mean, mode, and median. This section of the unit could be taught concurrently with the topic in the regular mathematics curriculum. In this manner, the materials could be used in small installments to last for the entire school year.

4. Selection of lessons from a unit. You may choose certain lessons in a unit that supplement or fit into the materials already being used. However, when making selections, try to include lessons from each of the parts in a unit. If you delete an entire part, the decision-making model on which the units are based (Part I, discovering issues; Parts II and II, gathering information; and Part IV, making decisions about issues) will be incomplete.

5. All units in all grades. All six of the units may be taught in grades 6, 7, and 8 in the appropriate subject areas, preferably with the introductory decision-making unit being taught first. Teachers in each of the subject areas involved will need to plan a schedule ensuring that students will not be overwhelmed with simultaneous units or will not repeat units in another grade level.

6. Parts of units in some grades. Some units or sections of units may be more appropriate for one grade level than another. If this approach is used, a student starting out in the 6th grade could be exposed to different units or sections of a unit in each of the three years he or she is in middle school. If you want to use this approach over a three-year period, it will be necessary to plan with teachers in the 6th, 7th, and 8th grades so that a student does not repeat any units or sections from one year to the next.

Program Evaluation

The materials in this program were developed over two years with the use of two types of evaluation procedures, formative and summative. During the formative evaluation, the suitability of all program materials was assessed by field-testing in the public schools and obtaining feedback from experts in each subject area. For the summative evaluation, the impact of the materials on students was assessed by comparing participating students with those who did not receive the program materials.

Formative Evaluation

In addition to the project staff, five groups of people contributed to the development of the program materials: teachers, administrators, consultants, parents, and students. A group of middle school teachers and administrators assisted project staff in determining the need for these materials, providing feedback on each pilot lesson and field-testing each unit in the classroom. They met with project staff periodically to give additional input on program development. Consultants to the project reviewed materials and wrote lessons in their areas of expertise. A citizens' review board examined all materials and made recommendations for change. Participating students completed criterion-referenced pretests and posttests that assessed their mastery of the objectives for each unit. As a result of the feedback received from these participating personnel, all lessons and units were revised appropriately by the project staff.

Summative Evaluation

The success of the project materials was assessed in accordance with the goals of the program. Middle school students who received the program units were compared with students who did not on five measures: (a) the Elementary Sex-Role Inventory (self-concept as assessed by scales of femininity, masculinity, and

androgyny); (b) Attitudes about Occupational, School, and Family Roles for Females and Males Inventory; (c) Occupational Aspirations and Expectations Inventory; (d) Self-Confidence in Decision-Making Inventory; and (e) Participation in Decision-Making Inventory. These five instruments were administered in the fall of 1979 and again in the spring, after students had completed the project materials, in order to compare gain scores of the participating and nonparticipating groups.

Evaluation results of the program showed that the participants made significant gains in a number of areas. The students increased their mastery of the content objectives of all six program texts as measured by the differences between the criterion-referenced pretests and posttests for each text. They also expanded their attitudes significantly in relation to the role appropriateness for females and males of activities traditionally associated with math, science, social studies, language arts, and physical education.

On the Attitudes about Occupational, School, and Family Roles for Females and Males Inventory, participating students ($M = 9.30$) made significant gains in comparison with nonparticipating students ($M = 4.55$), $F(1, 918) = 50.09$, $p < .001$. They were more likely to see both females and males engaged in a number of activities that are traditionally associated with either females or males. Results of the Elementary Sex-Role Inventory indicated that for both the participating and the nonparticipating groups, girls' self-concept was more likely to be androgynous than boys' self-concept was, the latter being rated as traditionally masculine.

Appendix A:
A Rationale for Expanding Self-Concept

Kathryn P. Scott

Females underperform in comparison with males in a number of significant areas. Females decline steadily in relative academic achievement as they grow older; they are less likely than males to earn graduate degrees; they enter a more limited number of occupations; and they earn lower salaries than males do. External factors—for example, economic devaluation of "women's" occupations, discrimination in hiring and promotion policies, and socialization practices that promote traditional roles of nurturance and dependency—account for many of these differences.

Males, too, are limited in their opportunities for full development. Traditional socialization practices encourage boys to develop aggressiveness and competitiveness at the expense of expressing a wide range of emotions and assuming caring roles for others. Males experience pressure to "prove" their masculinity by outperforming females as well as other males. They are more severely punished than girls are for acting in ways that do not conform to traditional sex-role expectations.

Substantial evidence indicates that psychological factors inhibit the actions of both females and males. Specifically, research shows that the perceptions that females and males have about themselves (their self-concepts) contribute to sex differences. Two aspects of self-concept are particularly relevant to understanding and changing the negative aspects of the differing patterns of behavior of boys and girls.

First is sex-role orientation, which has been measured for the dimensions of femininity, masculinity, and androgyny. Research indicates that females and males who display androgyny, which

means socially desirable characteristics linked with both femininity and masculinity, show more intelligence, creativity, and social competence than traditionally sex-typed individuals do.

Second is achievement motivation, which can be examined by measuring aspirations, expectations, and attitudes about success or failure. Research indicates that although the aspirations of both girls and boys are high, girls' expectations for achievement are significantly lower than boys'.

The goal of the Fair Play program is to enhance students' self-concepts in these two areas, sex-role orientation and achievement motivation, by teaching role flexibility and promoting self-confidence about achievement.

Sex-Role Orientation

Traditionally, it has been a common assumption that for girls, a high degree of femininity is correlated with a positive self-concept, and for boys, a high degree of masculinity is correlated with a positive self-concept (Sears, 1970). However, a number of studies refute these assumptions, especially for girls.

Broverman and her associates (1970) found that personality characteristics linked with femininity, such as dependency and emotionality, were rated by mental health clinicians as being less healthy, less mature, and less socially competent than those linked with masculinity. Sears (1970) found that girls who had rated themselves high on traits of femininity had self-concept scores that were lower than those of girls who did not so rate themselves. Fearfulness, insecurity, and aggression anxiety were the femininity traits that most closely correlated with low self-concepts for girls and also for boys. Furthermore, studies on intelligence show that cross-role sex-typing correlates with intelligence and creativity, that is, girls who have so-called masculine characteristics and boys who have so-called feminine

characteristics are more likely to show higher intelligence and creativity than are children who have traditionally sex-typed characteristics (Maccoby, 1966).

More recently, psychologists have suggested a third sex-role orientation, that of androgyny, in which individuals combine positive aspects of both feminine and masculine characteristics. People who display androgyny choose their behavior according to its appropriateness for a specific situation rather than according to whether it is considered masculine or feminine (Bem, 1975). Androgyny has been measured by the self-ratings of females and males on the Bem Sex-Role Inventory (BSRI), which includes socially desirable traits both stereotypically male and stereotypically female (Bem, 1974). Individuals who score highest on androgyny endorse both feminine and masculine roles in a way that demonstrates sex-role flexibility.

Bem (1975) found that androgynous individuals, both males and females, were, when under pressure to conform, more likely to show the masculine trait of independence and the feminine trait of playfulness than were masculine sex-typed or feminine sex-typed individuals. In this same experiment, females who rated themselves high on the feminine sex-typed traits failed to show either behavior. Spence, Helmreich, and Stapp (1975) found that self-esteem was highest for androgynous individuals, followed by those rated high in masculinity and low in femininity.

Thus we infer that an educational intervention that teaches sex-role flexibility may improve students' intelligence and creativity, as well as promote a wider range of positive behaviors that contribute to improved mental health and social competence.

Achievement Motivation

The second major self-concept variable, achievement motivation, is characterized by female and male aspirations for success, expectations for success, and attitudes toward success or failure. Sex

differences have been documented in all three of these areas. Studies of children's aspirations consistently report that boys strive for a higher educational levels than girls do and that both sexes aspire to traditionally sex-stereotyped occupations (Marini, 1978). Aspirations as well as expectations for educational attainment among adolescents have been found to be unrealistically high, especially for girls, in comparison with their occupational goals. While research shows no sex differences according to the prestige of occupations desired (Marini, 1978), traditionally female jobs cluster around nursing, teaching, and social work—high-status but low-paying jobs (Iglitzin, 1974).

Expectations for Success

Girls display lower expectations regarding academic performance for themselves than boys do, even though females usually receive higher grades than males do and have comparable levels of self-esteem. In a comprehensive review of studies, Maccoby and Jacklin (1974) report this inconsistency regarding girls' expectations and performance abilities. When asked to predict their performance on a specific task, boys predicted higher performance levels than girls did, and boys often overestimated while girls underestimated future performance (Crandall, 1969). Apparently, females lack confidence in their own abilities, a deficiency evident at all age levels through college (Maccoby and Jacklin, 1974; Block, 1976).

The lack of self-confidence in females relative to males can be explained in several ways. Studies in which females and males rate themselves on their abilities show that boys and men rate themselves consistently higher than girls and women do on strength, dominance, and power (Maccoby and Jacklin, 1974). In contrast, girls and women rate themselves higher than boys do on social competencies, such as warmth and cooperation. Thus females and males may have comparable measures of self-esteem, but for girls, self-confidence may be supported by their social abilities and for boys, by their feelings of personal potency.

Other studies have examined the differences in expectations between females and males by the ways each explains success. In a recent review of studies, Safilios-Rothschild (1979) reported that men with high achievement motivation explained success as a result of high ability and effort; they explained failure as a result of lack of effort. In contrast, women were more likely to explain success as a result of luck rather than ability. Therefore, men who are highly motivated to achieve may feel proud of success and try harder if they fail, whereas women may have less reason to be proud or feel confident of repeating success.

Fear of Success

In 1969, Horner first hypothesized that women may underachieve because they fear success. Since then, a number of studies have produced conflicting results regarding Horner's theory on the motive to avoid success, which was predicted to be more common in women, to be an enduring personality trait, and to be more likely to occur in competitive situations with men and in high-achieving women. Horner's studies used the cue "Ann/John finds herself/himself at the top of her/his medical school class" to elicit participants' stories about success. Although initial studies confirmed Horner's hypotheses, criticism has been targeted at this construct from a conceptual/theoretical point of view. First, success is defined in a very specific way related to achievement rather than in a generic sense that would apply more broadly (Tresemer, 1974). Second, the medical school example creates a situation in which a female succeeds in a sex-inappropriate field; the responses to that situation may be different from those to a sex-appropriate field and may reflect the reality of problems women do face even if they are successful in male-dominated professions.

Recent studies have not supported the original finding that fear of success occurs more frequently in women than in men or in high-achieving than in nonachieving women, but suggest rather that the

variable is a situational one (Condry and Dyer, 1976). In a recent study, Condry and Dyer (1977) measured fear of success across age levels by obtaining measures of fantasy of fear of success, as Horner did, and also by obtaining measures of intellectual performance in a mixed-sex competitive situation. They found no sex differences in the fantasy responses, but there was an abatement in fear of success for girls, especially from grades 5 to 7. In contrast, girls' relative performance on an intellectual task declined over the same grade levels. Female participants, who performed lower in the mixed-sex competitive situation, explained that they didn't want to beat a boy in a game.

Conclusions

In summary, significant differences between females and males are evident in the orientation of each toward achievement. The aspirations and expectations of females and males differ, and appear to be correlated with notions of traditional sex-role behavior. Girls believe that they should not seek as high a level of education as boys do, and girls believe that they should seek those careers which have traditionally been dominated by females. Girls see themselves as being less capable than they actually are. When males are present, females' performance may decline.

Because of these research findings, this program seeks to enhance the self-concept of students, giving remedial attention to the self-concept of female students. As a result of the remediation of female achievement motivation, girls will have a better chance to compete on a more equal basis for the scarce resources of society, which include good jobs, good salaries, good working conditions, good relationships with children and adults, and appropriate social status.

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Appendix B:
A Rationale for Improving Decision-Making Abilities

Byron G. Massialas

One reason that this handbook and the instructional materials accompanying it have been developed is to help students of middle school age acquire decision-making skills. National surveys indicate that middle school and high school students lack such important decision-making skills as observing, supporting, proposing, mobilizing, bargainin/negotiating, rule-making, and voting. More than ever before, individuals in today's society need such skills to be able to cope with overchoice, a situation in which a person is bombarded by so many alternatives that he or she becomes confused, inactive, and withdrawn.

Studies indicate that the existing school conditions generally operate against both female and male students in relation to the distribution of political decision-making roles. In fact, a major focus of civic education in elementary school is, according to one researcher, compliance to rules and authority rather than participation: "Teachers' ratings of the importance of various topics clearly indicate that the strongest emphasis is placed upon compliance to law, authority, and school regulations" (Hess and Torney, 1967, pp. 217-18). Further, the emphasis in citizenship education is often on school regulations rather than the workings of city, state, or national government and the rules made at those levels.

Research also reveals that girls in particular feel anxious, helpless, and/or powerless when considering their own power in relation to authority. In one study, boys were shown to be more likely than girls to tell a policeman he was wrong if they felt they were not treated fairly, a response consistent with the passivity that is part of the traditional feminine sex role (Hess and Torney, 1967, p. 12).

These program materials seek to assist school personnel in making the school a place where democratic decision-making is prerequisite to effective learning and to active citizenship. For example, research evidence solidly indicates that built-in decision-making situations in school correlate very highly with academic achievement. A study on the subject by a Johns Hopkins University team concluded (McPartland et al., 1979, p. 12):

> experiences with decision-making had the strongest influence on academic outcomes . . . student participation has its most important consequences for student academic learning when it allows students to practice controlling decisions . . .

The above study categorized school decisions into two areas: academic issues, which include course offerings, course assignments, rating of teachers, and grades; and nonacademic issues, which include school rules, disciplining of students, and so on. The investigators showed that when students were given choices in the selection of content, in academic obligations, in the selection of teachers, and in grading methods, academic ambition and success improved. At the same time, there was "a reduction in the amount of hostility and suspicion between students and teachers" (McPartland et al., 1979, p. 25).

These research findings reinforce the notion that a school program committed to encouraging students to reach their maximum potential must infuse into its formal curriculum critical incidents that will help students (a) learn to identify decisions affecting them, (b) acquire skills that enable their input into these decisions, and (c) use these skills in actual decision-making situations.

Since decisions involve every aspect of school life, schools must plan systematically to make these decisions accessible to as many people as they reasonably can. A systematic plan for school decision-making would involve the following, basic school-as-laboratory ideas (Massialas and Hurst, 1978):

- The school is not preparation for life but life itself.
- All main school actors (or individuals performing school roles—students, teachers, administrators, parents) are capable of participating in decisions affecting them.
- All decisions can be identified, and skills related to them can be learned through instruction in formal and informal settings.

For students to take advantage of an environment that has decision-making opportunities, students must be provided with instructional and actual situations in which they can learn decision-making skills. Planned decision-making opportunities enable students (a) to recognize the range of alternatives for each decision in such situations as what to study or what posture to take in class and outside it, and (b) to select one alternative that is appropriate for the individual and/or society. Similarly, students can learn how to influence decisions and analyze the consequences of possible actions. Participation skills—which include observing, supporting, proposing, mobilizing, organizing, doing a cost-benefit analysis, bargaining, rule-making, and voting—enable students to put into action the skills learned and thus enable them to control their environment by influencing the decisions affecting them.

As we define them here, participatory skills are those skills which enable individuals to take part in decisions that affect them. According to many educational leaders, these skills are the most important ones that schools can provide; yet schools have failed to do so, assuming erroneously that these skills will be acquired by students incidentally. The case for the direct focus of schools on participation is made well by Forbes Bottomly (1975), former superintendent of schools in Seattle, who said:

> Is it possible . . . to make a whole school into a social laboratory where students learn concepts, develop cognitive skills and learn how to participate? Take one of these skills—negotiating. There is probably no skill more closely associated with success in our densely populated, highly pluralistic, bureaucratic, at times disagreeable, democracy. The U.S. Constitution provides for it along with a power balance which the drafters wisely foresaw as being necessary in forcing fruitful compromise. Banks, corporations, professions, teachers, agencies, and individuals negotiate as a dynamic of survival. Yet we do not help our young learn—in fact, we don't ordinarily tolerate it except, perhaps, in careful simulation.

A school program for the 1980's that fails to plan for direct participatory activity for the young is not meeting the need identified by Bottomly, Toffler, and others. If such activity is planned, however, students can participate in subject- and experience-related decisions at the individual, class, extra-class, or school level. They can learn about their rights and about the obligations of members of a group to one another, and they can have planned, built-in experiences for actual practice and for decision-making. Thus, the concepts of power, leadership, and independence are learned not in the abstract, but in concrete situations in the class and in the school. Actual roles performed by all the school actors, including students, teachers, administrators, and parents, provide the focus; the school becomes a laboratory for learning participatory skills (along with cognitive and affective ones).

Participatory skills are those skills which are necessary for direct involvement in decisions. Here are some operational definitions in the domain of participation:

1. Observing is the skill of reproducing (reporting) as accurately as possible an event or a situation in the school or in the community. Can we make a statement about what we see regarding the process by which grades are given and and assignments are made? Is this statement confirmed by others?

2. Supporting means actively assisting in carrying out the goals of an organization. Means of support range from offering a sympathetic ear to individuals (students, teachers, parents, and so on) who express certain positions regarding the way grades are assigned, to actually siding with or being very vocal in favoring a position presented by other members of the group. In the latter situation, we would assume the role of an advocate.

3. Proposing involves the act of originating a point of view or policy and expressing it in understandable and persuasive terms. We may propose, for example, that grades be assigned only after group deliberation and reflection, and that explicit criteria, with which everyone in the group agrees, be developed for grading. Others might consider grading to be within the purview of the teacher, a prerogative established by long tradition, and feel that the teacher should continue to "give" grades.

4. Mobilizing entails the skill of getting others to support our own position. If we want to change the process by which grades are assigned, we need to marshal some form of support—psychological or material—from other students, teachers, administrators, parents, and the like. Techniques of public mobilization include emotional appeals, coercion, and persuasion. While the whole range of mobilizing skills does not need to be practiced in the classroom, we should never lose track of Dewey's idea that the best learning is "learning by doing." (This idea is the strongest argument for participation by students on a systematic, not incidental, basis.)

5. Organizing is the skill of systematically planning and scheduling individual or group activities to meet certain goals. The organizer understands the social psychology of

group members and sees to it that maximum efficiency is attained by assigning people to appropriate tasks. In our example, we might, after establishing the goals, organize a group to make an appearance before the school administrators, or organize a parental advisory group to present the views of the membership regarding the process of assigning grades.

6. Doing a cost-benefit analysis means carefully reviewing a a situation to estimate the loss or gain that would occur should a certain activity be carried out. In its simplest form, the skill relates to the ability to figure out what is to be gained or lost from a certain individual or group action. Would the school administrators be negatively disposed toward our student petition on the grading system if the whole class walked into the principal's office, rather than if a small group of representatives scheduled a meeting to discuss the proposal? (Here evidence from similar situations at the state or national level would be most appropriate and would provide to students "multilevel understanding.")

7. Bargaining is the skill of influencing others to accept a certain decision. Bargaining, or negotiating, involves a range of techniques such as trading, persuading, or confronting. In trading, we give up a demand in return for something our adversary gives up. In persuading, we convince our adversary to see things our way. In confronting, we might use the threat of demonstration, of walk-out, or of other direct or indirect sanctions against the opposing person or group. (Again, relating national- or state-level practice to our own situation might be extremely useful here and might promote multilevel understanding.)

8. Rule-making (or legislating) is the skill of expressing, preferably in writing, a decision that is considered binding by all people affected by it. For example, the decision to begin assigning grades on the basis of grading criteria agreeable to all students should be clearly stated and should be acceptable to all (including teachers and parents).

9. Voting is the act of explicitly casting a ballot for a course of action, a candidate, or a policy. In a democratic society, all public acts, to be binding, must be voted upon either by the people or by their elected representatives.

Finally, students must be encouraged to clarify their own values and to recognize the values of their society. These skills give the necessary power to individuals to influence and contribute to decisions in their sociopolitical environment.

The program's introductory unit, Decisions and You, details all of these skills, addressing both personal and group decision-making. Students are then given opportunities to practice these skills in each of the other program units.

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Appendices

Appendix C:
Sex Stereotyping in Academic Achievement

Kathryn P. Scott

Throughout the school years, boys and girls perform at different levels of achievement and interest in the basic academic subjects. Research studies on student achievement in math, science, and social studies, for example, show a pattern of differing performance for males and females at all age levels (Mullis, 1975). At ages 9 and 13, differences between girls and boys in achievement are small in these three areas, although boys perform slightly better in all areas. By age 17, the gap between male and female performance increases considerably. The biggest gap, however, comes at adulthood, by which time females have fallen significantly behind males in math, science, and social studies. In contrast, girls perform better than boys in reading at ages 9, 13, and 17, although by adulthood their achievement is similar to that of males (Herman, n.d.). Figure 1 summarizes performance differences.

Evidence exists to link these differences in female and male achievement to at least four sources:

1. Expectations by parents, peers, and teachers based on stereotyped notions of what is appropriate for boys and girls.

2. Socialization of girls and boys that offers greater rewards for boys to excel in traditionally male subject areas and girls in traditionally female subject areas (science and math for boys, English for girls).

3. Curriculum materials that portray females and males differently in relation to each of the subject areas.

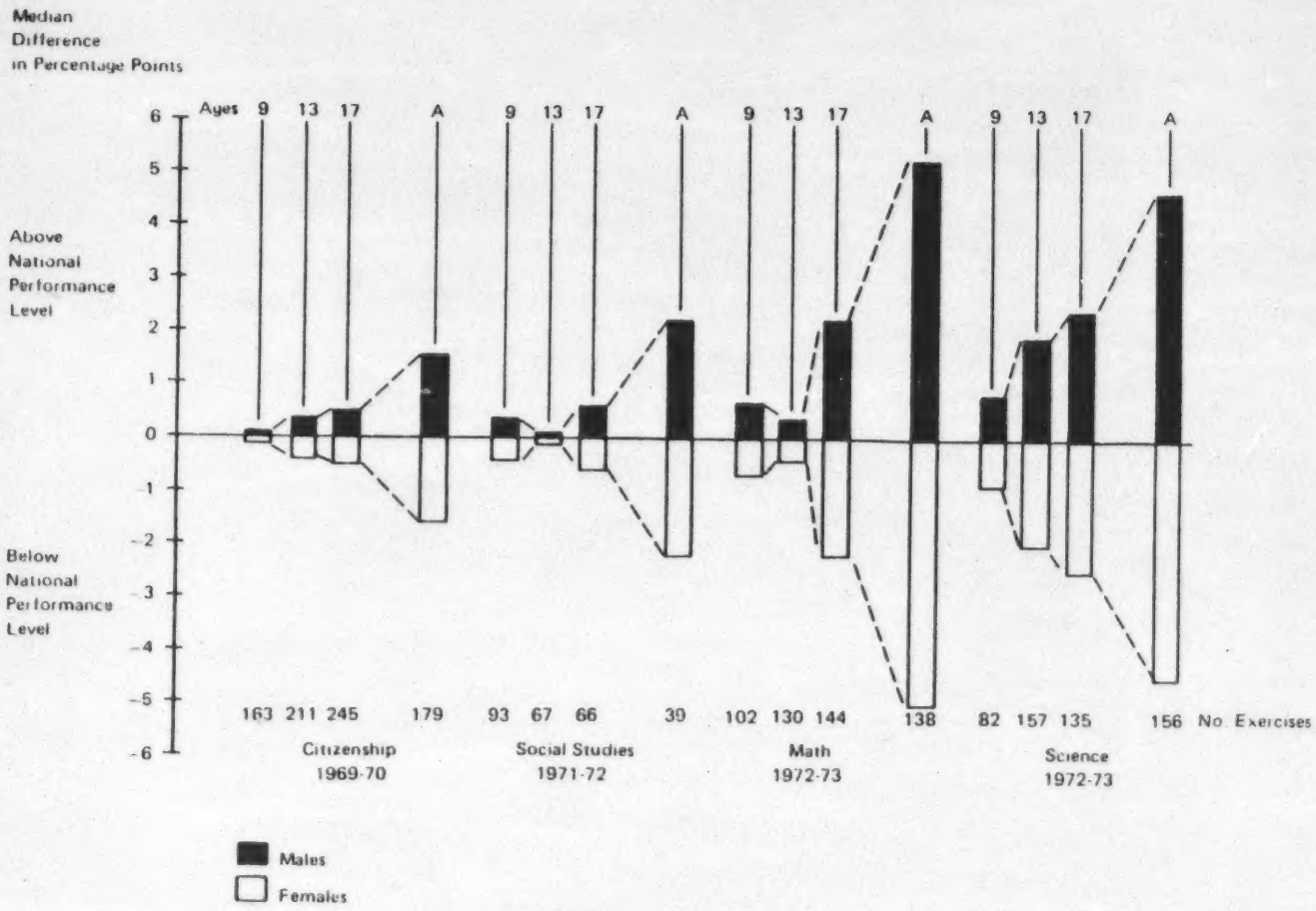

Figure 1. Median Difference in Performance between Males and Nation and Females and Nation

4. The possibility of innate factors that cause differences in learning activities and IQ.

In the sections that follow, each of the subject areas is discussed in terms of these factors, to gain an understanding of which, if any, differences, are real, and which differences can be mediated by a curricular intervention such as the Fair Play program. In general, research results indicate that innate differences between females and males are slight and that the impact of culturally learned differences plays a significant role in achievement differences.

Mathematics Achievement

Up to the 8th grade, there are few differences between boys and girls in math achievement. By adulthood, however, the gap in performance between males is greater in math than in any other area. The causes for this gap have been a topic of extensive investigations. Mathematics is one of the few areas for which innate differences have been suspected (Maccoby and Jacklin, 1974). In one of the most comprehensive studies to date, Fennema and Sherman (1977) measured math performance of 9th- and 12th-grade students as well as other factors that may contribute to sex differences, including spatial-visualization skills, attitudes toward mathematics, and a number of math or math-related courses. Their findings refute the existence of innate differences. Instead, they found that differences in the amount of students' practical experiences with math correlated significantly with differences in students' performance. For example, while it was found that students who had higher spatial-visualization skills scored higher in math achievement, these students had also taken a higher number of math-related courses.

Measures of attitudes toward mathematics revealed significant differences between girls' and boys' confidence in math. Girls displayed less self-confidence, a finding similar to that of other

studies showing girls having less confidence generally (Frieze et al., 1978). A further difference was evident in students' perceptions of the usefulness of math. Even though high achievement in math is a prerequisite for college entrance, for social science majors, for professional schools, and for a large number of technical and scientific jobs, boys in general rated mathematics as more useful in their lives than girls did (Fennema and Sherman, 1977).

Results of the research on sex differences in math achievement indicate that schools can take action to increase the participation and improve the performance of girls in math. In line with the goals of the Fair Play program, girls need to be (a) informed of the importance of math as a critical factor in a large number of educational and career opportunities, (b) expected to take all the math courses possible through high school, and (c) reassured that mathematics is just as appropriate for girls as for boys.

Science Achievement

Closely related to math, which has been called the language of science, is science, for which achievement levels reflect increasing gaps between males and females throughout the school years. Males outperform females at all levels but are notably stronger from age 13 to the adult years (Mullis, 1975).

In science as in math, the case for innate causes is weak. Studies on spatial-visualization ability are not conclusive, although there is some evidence that males excel in spatial ability—a factor that could contribute to higher performance in science, especially the physical sciences. An analysis of items in the National Assessment of Educational Progress (NAEP) indicates that differences between males and females are slight for items about the facts and principles of science, whereas differences are great (males scoring higher than females) for items measuring the abilities and skills needed to engage in the processes of science (Herman, n.d.).

Yet because of the impact of cultural norms about appropriate behavior for females and males, it is reasonable to attribute much of the achievement difference to the experiences and expectations of females and males. Throughout the school years and in family life, girls are often expected to be demure, to be obedient, and passively to await directions from teachers and others. In contrast, boys are encouraged to be active and curious, to explore their physical environment, and to take the initiative—behaviors entailing many of the skills that are needed for scientific experimentation.

In science as in mathematics, girls may perceive the subject as less useful to them in their lives. In addition to being less interested in the scientific phenomena around them, girls are less likely to envision ability in science as being helpful in a future career. This notion persists, despite the fact that careers such as mursing and health technology, which are dominated by females, require a strong background in science. In an increasingly technological society, numerous other occupations, often ones that draw high salaries, require a science background.

As a consequence, though differences in overall academic performance as measured by grades may be slight, girls do not continue to take science courses in high school at the same rate boys do. Girls are less prepared for careers requiring science and may be actively discouraged from taking science courses because achievement in science deviates from cultural norms about what is appropriate for females.

To reduce this gap between males and females in science achievement, the program unit Decisions about Science addresses the need to increase the participation of girls in science by (a) making students aware of the link between achievement and career choices; (b) countering, by use of nonsexist materials that provide positive

female role models, the stereotyped notion that science is "for boys only"; and (c) helping students recognize that their attitudes are learned and thus can be unlearned.

Social Studies Achievement

Social studies achievement follows the pattern of math and science achievement, the largest differences in pupil performance being evident at adulthood. Girls perform lower than boys in both citizenship skills and social science knowledge (Mullis, 1975).

Social studies courses, which draw from a variety of sources, including all of the social sciences but especially history, are required throughout most middle schools and high schools. Therefore, the likelihood that females and males have different amounts of school experiences is slight for social studies, as it is for math and science.

Yet the impact of the social studies curriculum may be such that increasingly during the school years, and at adulthood, removed from the structured setting of required courses, females do not continue to grow in achievement and citizenship ability as males do.

A number of studies have analyzed the content of social studies textbooks, particularly United States history books, which have been found to be extremely biased in their portrayals of women and men (Weinbaum, 1979; MacLeod and Silverman, 1973; Trecker, 1971). The history of "man" is characterized as the history of men. Fewer than 3 percent of all people mentioned or quoted in one sample of eight United States history texts were women (MacLeod and Silverman, 1973). Events significant to the lives of women—events such as education, labor-movement and labor-force participation, work on the frontier, suffrage, and birth control—receive little or no attention in the texts (Trecker, 1971). Not only are women's con-

tributions in history vastly underrepresented in relation to reality, but often they are undervalued as marginal to the "important" events of history, that is, those affecting men and accomplished by men.

It is no wonder that females can graduate from high school, having completed all of the required courses in social studies, but not see themselves to be as important as males in the process of history in the making. The one-sided view of our society taught in school may alienate women from the economic, social, and political forces shaping today's society, and hence may depress their further learning achievement or participation in the political process.

Expectations for females' lower participation in society can be countered by the program's social studies unit, Decisions about Roles, which emphasizes the actual participation of women in the past and present, and by the program's decision-making unit, Decisions and You, which teaches skills for participation in political and personal decision-making.

Language Arts Achievement

Girls have traditionally outperformed boys in reading and writing achievement. Research indicates that girls develop verbal abilities earlier than boys do, and that girls maintain this superiority over boys throughout the school years (Maccoby and Jacklin, 1974). Such differences in verbal ability may account for the differences in school achievement. However, according to the NAEP data, the differences between males and females in reading achievement no longer exist at adulthood (Herman, n.d.).

Explanations for the differences in performance of the sexes can be found in innate ability factors, attitudes about role expectations, and curriculum presentations of reading. While possessing superior verbal skills may contribute to girls' earlier develop-

ment in reading ability, such a difference would not explain the lack of difference between males and females during adult years. It must be assumed that experience factors have an impact. Different experiences in reading result from the stereotyping of reading as a female activity, passive and sedentary, in contrast to male activities, which are active and physical. School textbooks reinforce this role behavior by showing boys outdoors engaging in physical activities while girls are more likely to be indoors reading (Weitzmann and Rizzo, 1974).

Yet at adulthood females no longer outperform males. It may be hypothesized that males, in contrast to females, spend more of their time involved in higher level jobs that require and reinforce reading skills, whereas females are less likely to be involved in these types of activities.

Physical Education Achievement

Differences in the physical abilities of girls and boys are readily apparent in adolescent students. However, during childhood, girls and boys are comparable in strength, endurance, overall physical performance, and size. Throughout childhood, girls actually mature from 12 to 18 months ahead of boys, beginning their adolescent growth spurt between 10½ and 13 years of age. Boys' growth spurt begins between ages 12½ and 15 (Shaffer, 1979).

During adolescence, males grow to become an average of 10 percent larger than females, shown in males' increased height and weight. Muscle mass is twice as great for males as for females, and males perform two to four times as well as females in muscle strength. Other physiological differences, such as the larger lungs and heart of boys, contribute to the greater speed and endurance of males. For girls—who have a larger proportion of body fat—buoyancy and endurance under cold conditions are favored (for example, long-distance swimming). Also, the body build of females is more conducive to flexibility than that of males, hence females have superiority in certain types of gymnastics.

While it is true that on the average males outperform females during adolescence and adult years in strength and in many areas of athletic ability, it is not true that all males are superior to all females in these areas. Instead, the differences are actually greater within each sex than between the sexes, such that some girls are better than many boys in certain skills.

However, physical education classes have traditionally been designed on the principle of differing performance, to the extent that classes have been segregated. Because physical training and experiences for females have never been comparable to those of males, it is not known to what extent differences in physical performance are a result of physiological differences or to what extent they stem from the experiences and attitudes about female performance. An increasing number of beliefs about the physical limitations of females are shattered each year, as women with athletic training break new records, even during all phases of the menstrual cycle and pregnancy. Thus, individual differences in physical conditioning appear to be more important for performance than do differences in gender.

Now that Title IX legislation mandates that physical education programs be conducted in mixed classes at the elementary and secondary levels, further considerations of differences in both performance and attitudes need to be addressed; in particular, expectations of girls' development of physical skills have traditionally been far below girls' potential. Femininity is often linked with weakness, helplessness, and passivity, while masculinity is linked with strength, power, and assertiveness. Understandably, these attitudes discourage physical fitness and skills in females who want to be "feminine," and they put tremendous pressures for athletic performance on males who want to be "masculine." The notion that possessing physical skill is antithetical to being female is apparent in common expressions such as "You play just like a man, Joan," or "You guys are playing like girls."

The program's physical education unit, Decisions about Physical Activity, is an intervention unit designed to counter the negative expectations for girls in physical activities and to increase the skill and fitness level of all students according to their individual potential. Both boys and girls are encouraged to improve their performance by a series of fitness activities that develop the traditionally weaker areas for boys, and that help students recognize body type, rather than sex, as a much more accurage gauge of physical potential in various sports. The unit encourages students to think of themselves as individuals and to seek to fulfill their individual potential.

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